

Title (en)
Vacuum pumping system

Title (de)
Vakuumpumpstand

Title (fr)
Système de pompage à vide

Publication
EP 0723080 B1 19990922 (DE)

Application
EP 95116395 A 19951018

Priority
DE 19500823 A 19950113

Abstract (en)
[origin: US5595477A] A vacuum pumping stand for the cyclic pumping-down of containers and for maintaining an operating vacuum in the containers, for the pumping-down of the container. The vacuum pumping stand has a first and a second vacuum pump which are arranged in series and form a first and a second pumping stage. The first vacuum pump is a radial flow compressor with a controllable throttle which is located in the intake pipe to the first vacuum pump. The second vacuum pump is a rotary compressor or a water ring pump. The second vacuum pump is located in a vacuum pipe in parallel to an outlet pipe of the first vacuum pump and is connected with its inlet at a branch-off with the outlet pipe. A control part is situated in each of the outlet pipe and the vacuum pipe downstream of the branch-off for directing the delivered volume at higher pressures from the first vacuum pump directly or at lower pressures from the first vacuum pump by way of the second vacuum pump 13 to the outlet 10 of the vacuum pump stand.

IPC 1-7
F04B 41/06; F04B 37/14; F04D 25/16; F04D 19/04; F04C 23/00; F04C 25/02

IPC 8 full level
F04B 23/08 (2006.01); **F04B 37/14** (2006.01); **F04B 41/06** (2006.01); **F04C 23/00** (2006.01); **F04C 25/02** (2006.01); **F04D 17/10** (2006.01); **F04D 19/04** (2006.01); **F04D 25/16** (2006.01)

CPC (source: EP US)
F04B 37/14 (2013.01 - EP US); **F04B 41/06** (2013.01 - EP US); **F04C 23/005** (2013.01 - EP US); **F04C 25/02** (2013.01 - EP US); **F04D 19/046** (2013.01 - EP US); **F04D 25/16** (2013.01 - EP US)

Cited by
DE19630264A1; GB2331126A; GB2331126B; US6196810B1

Designated contracting state (EPC)
AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
US 5595477 A 19970121; AT E184963 T1 19991015; DE 19500823 A1 19960718; DE 59506893 D1 19991028; EP 0723080 A1 19960724; EP 0723080 B1 19990922; ES 2136232 T3 19991116; JP H08232870 A 19960910

DOCDB simple family (application)
US 59005396 A 19960116; AT 95116395 T 19951018; DE 19500823 A 19950113; DE 59506893 T 19951018; EP 95116395 A 19951018; ES 95116395 T 19951018; JP 33862495 A 19951226